**Documentation for Multiple Linear Regression**

* The data we have taken is “car\_purchasing\_data”.
* From the data, we have removed first three columns which are

‘Customer Name’, ‘Customer e-mail’, ‘Country’ because they are not necessary and don’t contribute any relevant information for performing Multiple Linear Regression.

* Total number of rows : 500
* Total number of columns : 6

**Independent columns:**

1. Gender
2. Age
3. Annual Salary
4. Credit Card Debt
5. Net Worth

**Dependent column:**

1. Car Purchase Amount

**Splitting the data:**

* The next step is splitting the data into training part and testing part.
* 80% and 20% of the data from independent column ‘X’ is splitted into training and testing parts as ‘X\_train’ and ‘X-test’ respectively.
* 80% and 20% of the data from dependent column ‘y’ is splitted into training and testing parts as ‘y\_train’ and ‘y\_test’ respectively.

**Testing the model with training data:**

* Training accuracy : 0.999999983402512
* Loss by mean\_squared\_error : 2.0325079768531267
* Loss by absolute\_error : 1.1330596762958975
* Loss by absolute\_error : 1.4256605405401128

**Testing the model with testing data:**

* Testing accuracy : 0.9999999667332884
* Loss by mean\_squared\_error : 2.793399293339984
* Loss by absolute\_error : 1.3350627819850707
* Loss by absolute\_error : 1.671346550940284

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